California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

Addendum 4 for a Project With a Location Change Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-13-607 – Hydrogen Refueling Infrastructure

CALIFORNIA
ENERGY COMMISSION

Edmund G. Brown Jr., Governor

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ADDENDUM 4

The *Localized Health Impacts (LHI) Report for Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-13-607-Hydrogen Refueling Infrastructure* was posted June 19, 2014 (CEC-600-2014-007)[1]. This addendum applies the same approach to assess the potential localized health impacts of a proposed new location for one hydrogen refueling station with the Linde LLC project, originally titled "Oakland Airport Hydrogen Fueling Station." The original proposed Oakland Airport site is no longer a viable location. The proposed new station location will be at the Alameda-Contra Costa Transit District, where Linde LLC has previously built a light-duty hydrogen refueling station.

Table 1 lists the original and newly proposed address, environmental justice indicators, and new surroundings.

Table 1: Original and Proposed New Site Location for Linde LLC Hydrogen Refueling Station With Environmental Justice Indicators[2] and New Surroundings

Original Site Location	New Site Location	EJ Indicators for New Location	Surroundings for New Location (within 1-mile radius)
1019 Langley Street, Oakland, CA 94621	1172 45th Street, Emeryville, CA 94608	None	Densely populated area with more than 10 schools, 10 day care centers, and 10 medical offices/hospitals

Source: Energy Commission staff analysis

1 Brecht, Patrick, 2014. *Localized Health Impacts Report.* California Energy Commission, Fuels and Transportation Division. Publication Number: CEC-600-2014-007.

2 The EJ indicators follow: (i.) minority subset represents more than 30 percent of a given city's population (2010), (ii.) city's poverty exceeds California's poverty level of 15.9 percent (2009-2013), (iii.) city's unemployment rate exceeds California's unemployment rate of 5.7 percent as of November 2015, and (iv.) city's percentage of persons younger than 5 years of age or older than 65 years of age is 20 percent higher than then California's average. Note: For the entire state, the percentage of persons under the age of 5 years is 6.8 percent, and the percentage of persons over the age of 65 years is 11.4 percent.

Air Quality and EJ Indicators

Emeryville is located in a nonattainment zone for ozone, particulate matter (PM^3) 2.5 and PM 10, and has no EJ indicators. If a project site is in a nonattainment zone and has more than one EJ indicator, as shown in Table 2, it is considered a high-risk community, according to the Environmental Justice Screening Method[4]. Therefore, even though the proposed Linde LLC Emeryville location is a densely populated area, it is not considered a high-risk community.

Table 2: EJ Indicators Compared With California

Yellow highlighted areas indicate numbers that meet the definition for EJ indicators.

	Persons Below Poverty Level (2009-2013)	Black persons (2010)	American Indian and Alaska Native (2010)	Persons of Hispanic or Latino Origin (2010)	Asian (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of age (2010)	Unemployment (November 2015)
California	15.9%	6.2%	1.0%	37.6%	13.0%	6.8%	11.4%	5.7%
EJ Indicators	>15.9%	>30.0%	>30.0%	>30.0%	>30.0%	>8.16%	>13.8%	>5.7%
Emeryville	9.7%	17.5%	0.4%	9.2%	27.5%	4.2%	10.0%	2.8%

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: http://www.labormarketinfo.edd.ca.gov/CES/Labor_Force_Unemployment_Data_for_Cities_and_Census_Areas.html and Demographics information from the U.S. Department of Commerce, U.S. Census Bureau: http://quickfacts.census.gov/qfd/states/06/0622594.html

Location Analysis and Community Impacts

Based on staff's assessment of the proposed new site location in Emeryville, it is anticipated that the surrounding community will not be disproportionately impacted by the implementation of the project. As with the original Oakland Airport project location, the equipment will consist of a basic hydrogen compression, dispensing, and storage system. Linde LLC will periodically deliver liquid hydrogen to the site. At the site, the liquid hydrogen is vaporized and then compressed, cooled, and dispensed into vehicles. Staff expects that air quality at and near the proposed site will improve over time because there will be no emissions from the refueling station. It is anticipated that there will be reduced greenhouse gas emissions as a result of the fuel cell electric vehicles (FCEVs) refueling at the station. The approval and subsequent construction and/or upgrade of the station will support a growing number of FCEVs. As more FCEVs enter the market and displace gasoline, tailpipe pollutants will decrease. The anticipated impact to the community where the refueling station will be located is likely positive in terms of cleaner air.

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3 "Particulate matter" is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled. The numbers stand for microns in diameter.

4 California Air Resources Board (ARB), *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making, 2010.* (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.